



EUROPEAN CENTRAL BANK

EUROSYSTEM

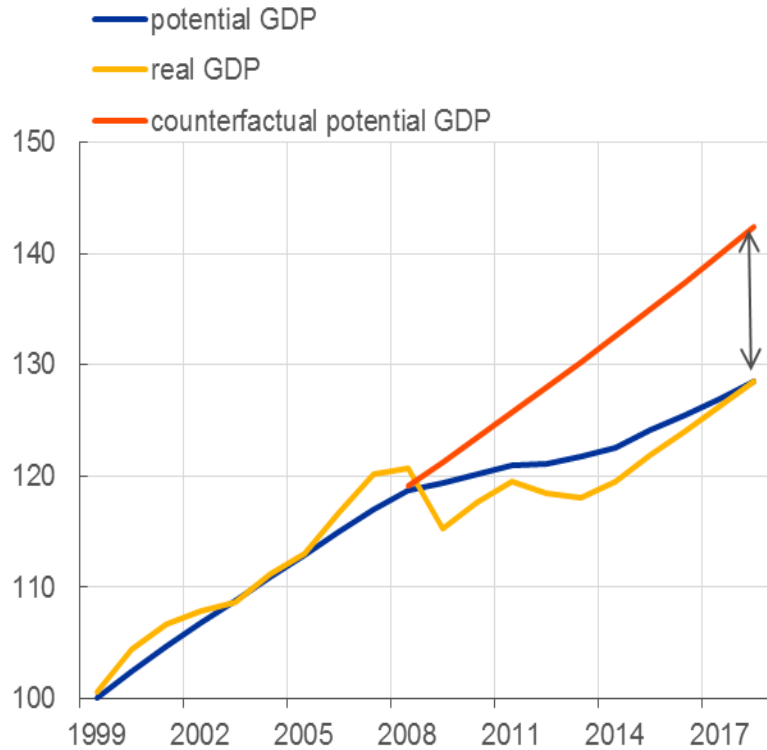
**Benoît Cœuré**

Member of the Executive Board  
European Central Bank

# Scars or Scratches? Hysteresis in the euro area

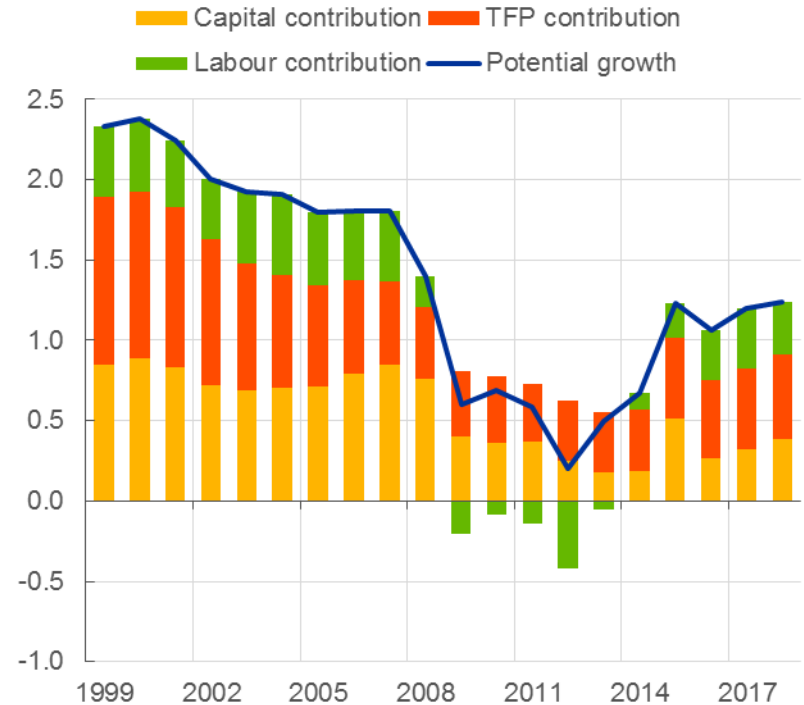
Geneva, 19 May 2017

## Euro area potential and actual real GDP (indices: 1999 = 100)



Sources: European Commission (Spring 2017), ECB calculations.  
 Note: Counterfactual GDP assumes that potential GDP continued to grow at its 2007 growth rate (i.e. it reflects the observation that potential growth already slowed down before the crisis).  
 Latest observation: 2018.

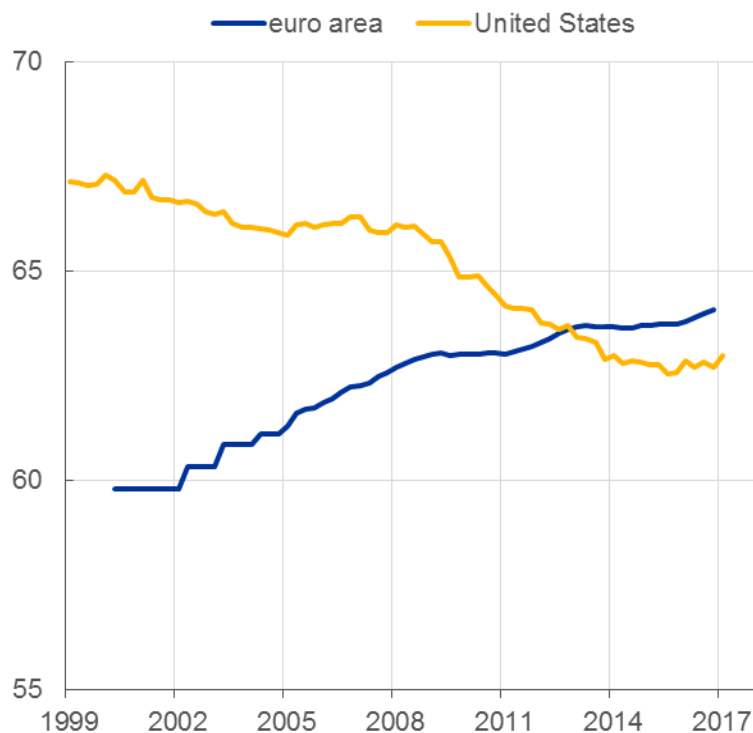
## Contributions to euro area potential growth (annual percentage change; contributions in p.p.)



Source: European Commission, Spring 2017 forecast.

## Labour force participation rates: euro area and United States

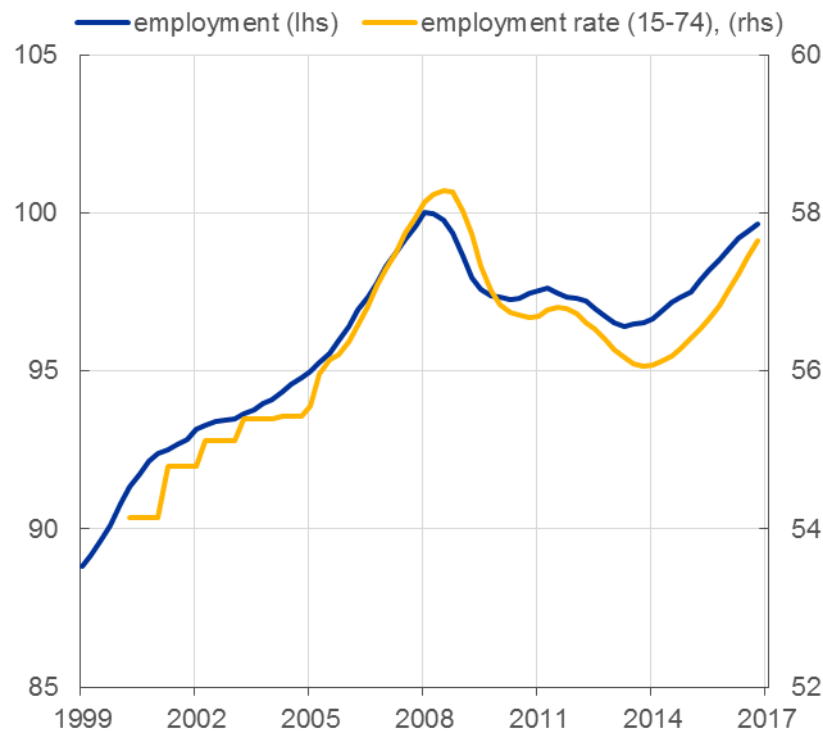
(active population/working-age population\*)



Sources: Eurostat, Bureau of Labor Statistics and ECB calculations.  
Notes: \*Data for the United States refer to 16+ civilian population and are quarterly averages of monthly data. Data for the euro area refer to 15-74 population and are four-quarter moving averages.

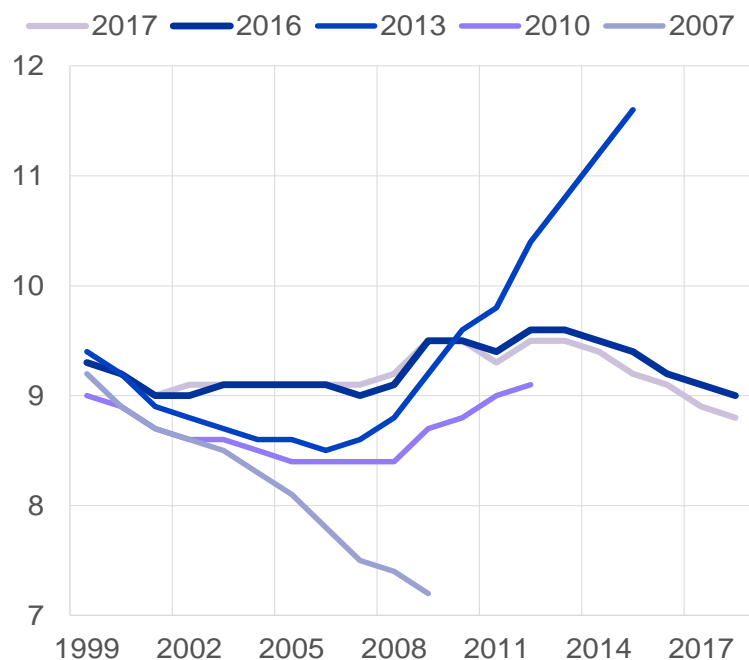
## Euro area employment levels and as ratio of working age population

(lhs: index: 2008Q1=100; rhs: as % 15-74 working age population)



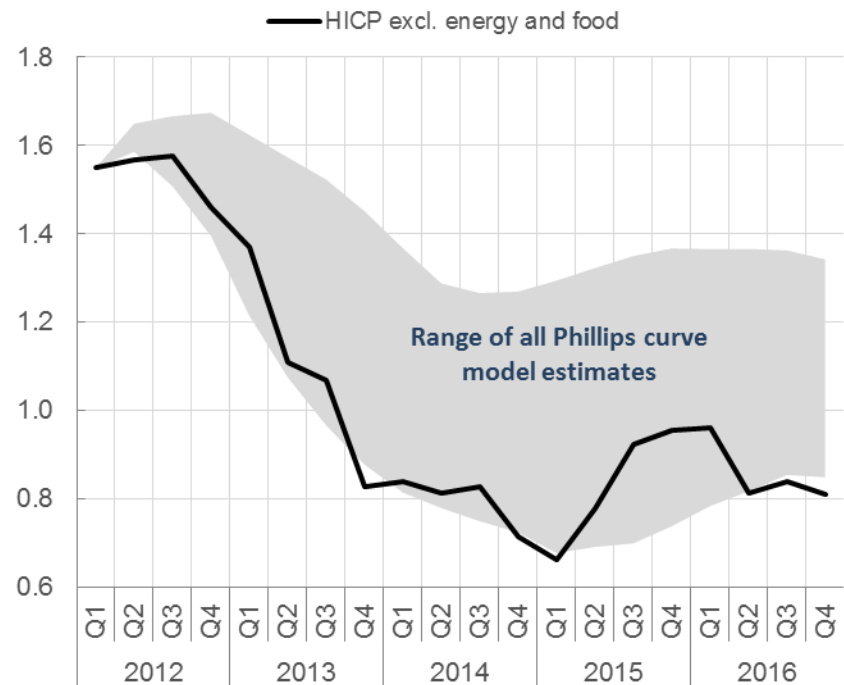
Sources: Eurostat and ECB calculations.  
Notes: Employment rate expressed as four-quarter moving average.

## Real-time vintages of European Commission NAWRU\* estimates (% of labour force)



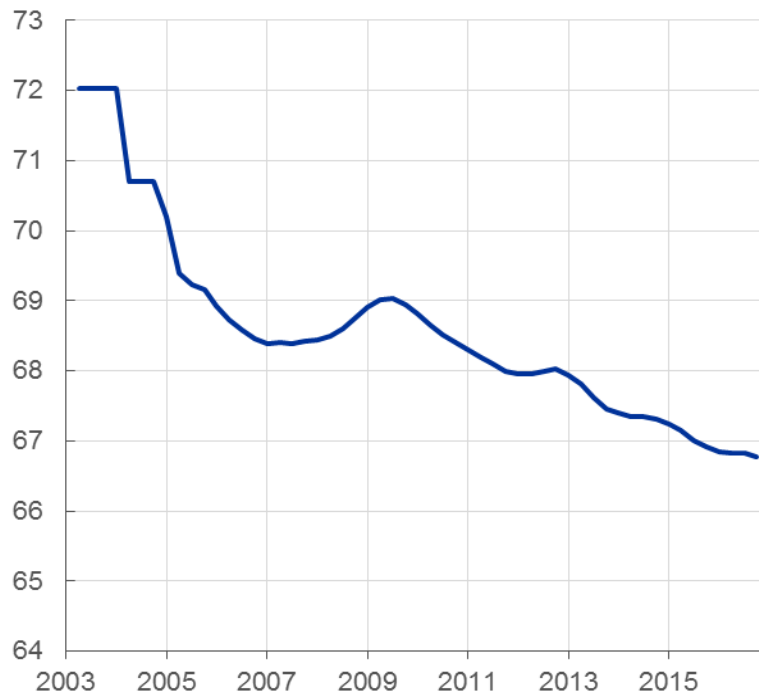
Sources: European Commission and ECB calculations.  
 Note: Latest observation from EC Spring 2017 forecast.  
 \*Non-accelerating wage rate of unemployment.

## Underlying inflation: actual and conditional out-of-sample projection (annual percentage change)



Sources: Eurostat, IMF, Consensus Economics, SPF and ECB calculations.  
 Notes: The parameters are estimated over the sample 1995Q1 to 2016Q4. The conditional out-of-sample forecast is done for 2012Q2 to 2016Q4. The range depicts forecasts for HICP excl. energy and food coming from differently specified Phillips curves. The specifications include permutations across the expectation formation (backward- or forward-looking) and the variables representing economic activity/slack. The following economic activity/ slack measures are included: real GDP growth, unemployment rate, European Commission output gap, IMF output gap, European Commission unemployment gap. The following inflation expectations measures are included: Consensus measures with a horizon from 2 to 7 quarters ahead, SPF 1 year ahead, SPF 2 years ahead and SPF 5 years ahead.

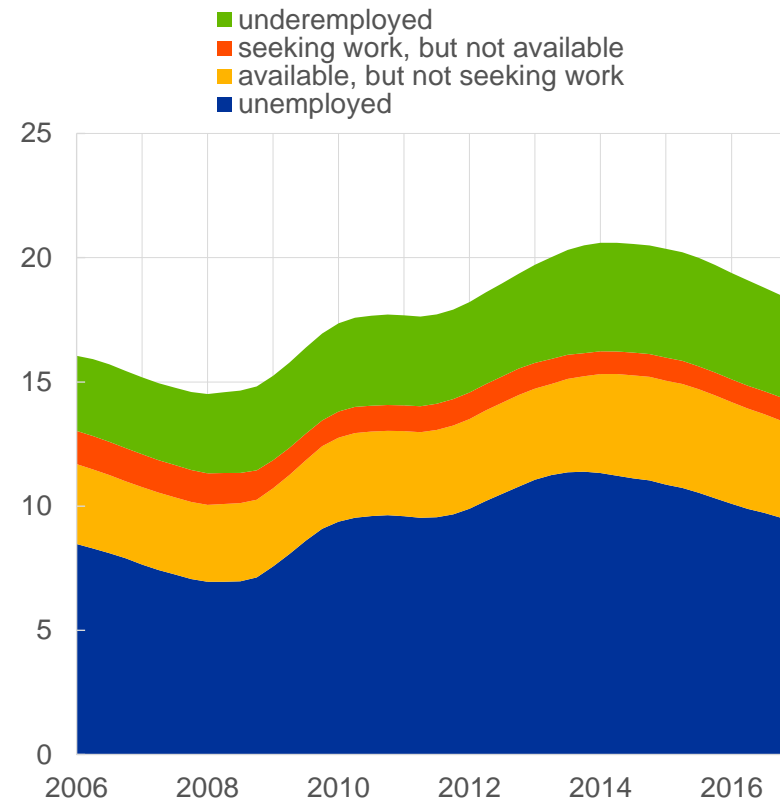
## Euro area 'core'\* employment measure (as a share of total 'dependent' employment)



Sources: Eurostat and ECB calculations.

Notes: \*\*Core' employment reflects the share of total 'dependent' employment (i.e. excluding the self-employed) who are in work which is both full-time and open-ended (i.e. not on a temporary contract).

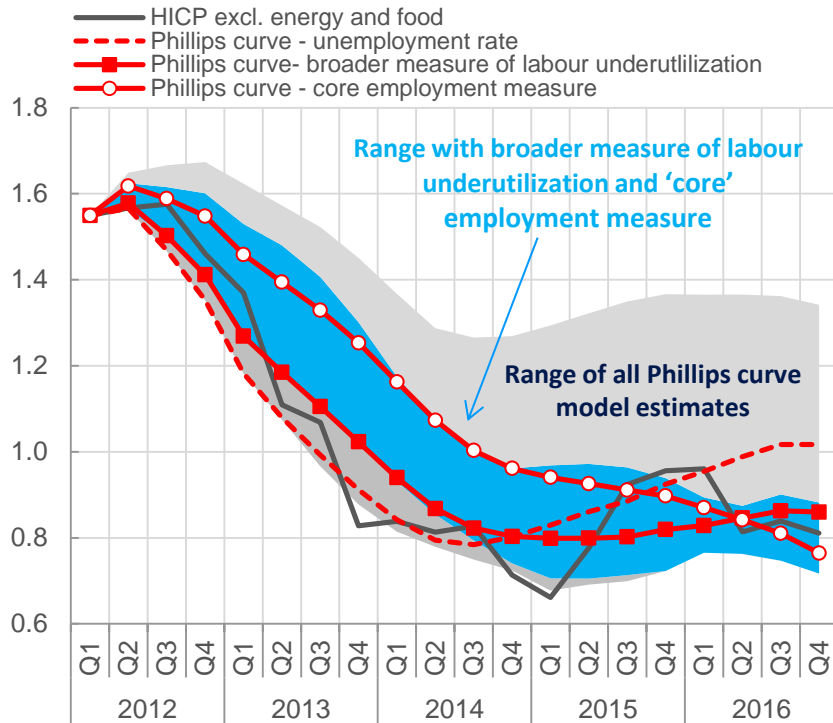
## Broader estimates of labour underutilisation (percentages of the extended labour force, four-quarter moving averages)



Sources: Eurostat and ECB calculations.

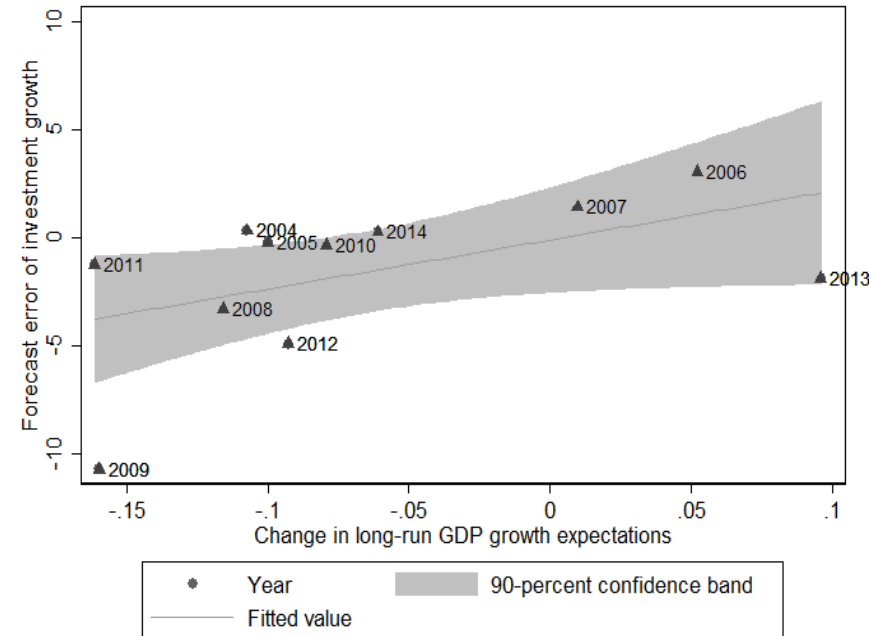
Notes: All components are expressed as percentages of the extended labour force (i.e. the active labour force plus those available, but not seeking work and those seeking work, but not available). The latest observations are for the fourth quarter of 2016.

## Underlying inflation: actual and conditional out-of-sample projection (annual percentage change)



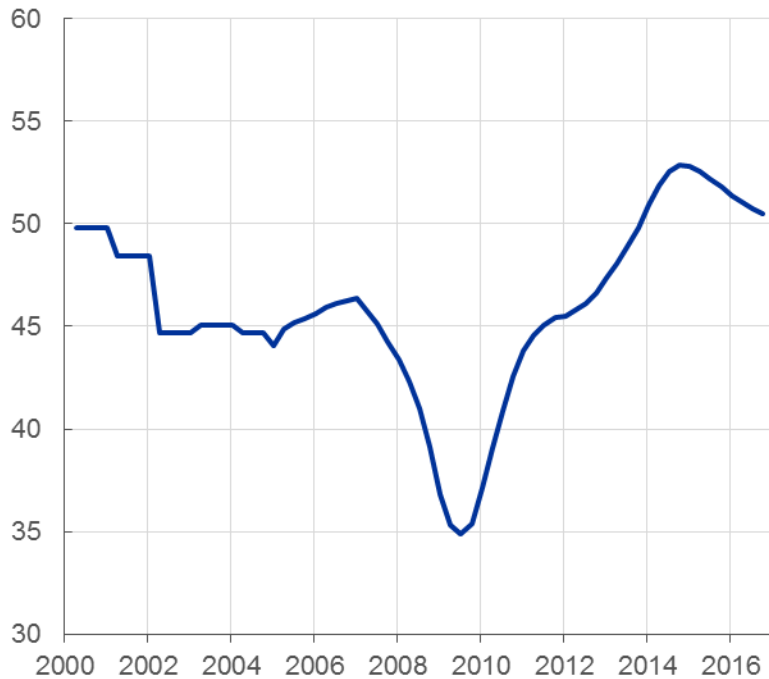
Sources: Eurostat, IMF, Consensus Economics, SPF and ECB calculations.  
Notes: See detailed footnote of right-hand side chart on slide 3. The parameters are estimated over the sample Q1 2005 to Q4 2016. The grey range depicts forecasts for HICPX coming from differently specified Phillips curves. The blue range specifications with the broader measure of labour underutilization and 'core' employment measure. The red lines are all based on constant parameters and backward-looking expectation formation.

## Potential growth revisions and investment forecast errors in the euro area (percentage points)



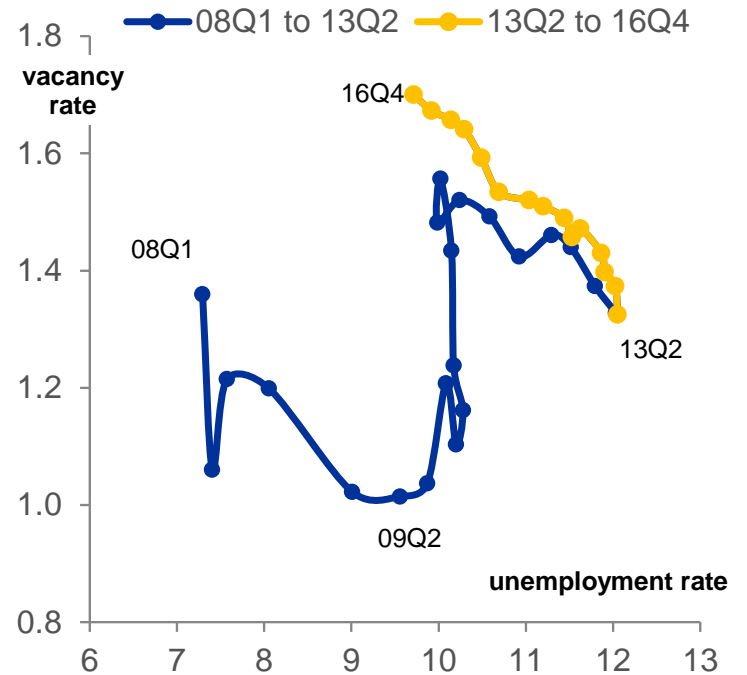
Source: ECB Staff calculations based on Blanchard et al (2017), Consensus forecast and Eurostat (based on data available in February 2017).  
Notes: October forecasts. x-axis: Weighted average of change in long-term growth between October in year  $t$  and October in year  $t-1$  and in year  $t+1$  and  $t$ , with equal weights; y-axis: Actual investment growth in year  $t$  minus Consensus forecast in October of the previous year ( $t-1$ ) for year  $t$ .

## Long-term unemployment share in the euro area (% total unemployment)



Sources: Eurostat (EU LFS) and ECB calculations.  
Notes: Share of unemployed out of work for 12 months or more as % of all unemployed reporting unemployment duration.

## Euro area Beveridge Curve (% of labour force)



Sources: Eurostat and ECB calculations.